A DIVISION-LEVEL GAME OF THE ENTIRE WWII CAMPAIGN

WAR IN RUSSIA

SSI

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TABLE OF CONTENTS

PAGE

1.0 INTRODUCTION 1
Description of Action • Talking to the Computer • Saving a Game • The Map
Starting the Game (Apple DOS 3.2 or 3.3) • Starting the Game (Atari)

2.0 GENERAL DESCRIPTION 1
Parts Inventory • Abbreviations

3.0 SEQUENCE OF PLAY 1
Scenario Selection Phase • Scenario Set-Up • Sequence

4.0 GROUP ADJUSTMENT-BUILD PHASE 1
Combat Groups • Air Groups • Dividing Combat Groups • Transferring Units • Transferring Aircraft
Map Display • Strategic Map Display (Apple only) • Building Factories • Building Units
Naval Movement • Ending the Game

5.0 SUPPLY 3
Depot Units • Depot Movement Phase • Building Rail Hexes • Supply Scan

6.0 MOVEMENT – TACTICAL PLOT PHASE 3
Group Selection • Strategic Movement • Rail Movement • Replacements • Artillery Build-Ups
Tactical Movement Plot • Stacking • Entrenchment • Plotting Airstrikes • Zones of Control

7.0 TACTICAL EXECUTION – COMBAT PHASE 4
Airstrike Resolution • First Player Determination • Tactical Movement • Combat • Bombardments
Combat Odds • Defender Retreats • Attacker Advance • Entrenchment Effects • Combat Casualties

8.0 GENERAL OPERATIONS 5
Fatigue • Experience • Terrain Effects on Combat • Weather • Production • Lend Lease
Partisans • Capturing Cities • Automatic Ending • Artillery • Soviet Resources
Soviet Guards • Axis Unit Designations • Soviet Siberian Reinforcements

9.0 VICTORY CONDITIONS 7
Victory Points • Victory Levels

10.0 SOLITAIRE PLAY 7

1.0 INTRODUCTION

WAR IN RUSSIA is an operational level game featuring combat between Axis and Soviet armies in Russia from 1941-44. Every combat division/corps available to the Axis and Soviet commanders is now under your control. Included are campaign games for Barbarosa (1941), Case Blue (1942) and Zitadelle (1943).

1.1 Description of Action:

Each game turn is one week in length. A game turn consists of: (1) building and adjusting friendly combat groups; (2) supplying and moving your combat groups; (3) plotting airstrikes and tactical movement; (4) tactical/combat resolution.

1.2 Talking to the Computer:

To enter a response to the computer that consists of numbers (such as combat group identification numbers) type the number into the computer and press the <RETURN> key.
To select a routine from a menu or answer a Yes/No question, just press the desired key.

1.3 Saving a Game:

At various points during each game turn the computer will allow the player(s) to save the game in progress. You will need a scratch disk to store the saved game data. The disk must be initialized for SSI use during the game by following instructions included in the game program (Atari owners may use any Atari formatted disk). Once a game is saved you will be able to restart it at the point you left off.

1.4 The Map:

The map is a 31 × 32 hex grid representation of western Russia. Each hex measures 50 miles in width.

1.5 Starting the Game (Apple DOS 3.2 or 3.3)

To begin the game, boot the Scenario side of your disk. The game will begin automatically. After selecting the starting values for your game, you will be told to insert the Game side of your disk. If you are using an Apple II with Pascal, you must first use your BASICS disk. If you are using an Apple III, you must first go into Apple II emulation mode.

1.6 Starting the Game (Atari):

Remove all cartridges, then insert the game disk in drive #1 and turn on the computer. If you own an Atari 800XL, hold down the OPTION key while booting.

2.0 GENERAL DESCRIPTION

2.1 Parts Inventory:

A. Game box
B. Rule Book
C. 5¼" game disk
D. Two map data cards

2.2 Abbreviations:

Abbreviations used in the game are explained below:

INF	infantry
MOT	motorized infantry
PZG	panzergrenadier
PZ	panzer
CAV	cavalry
MECH	mechanized
GDS	guards
MTN	mountain infantry
JG	jager (light infantry)
LW	Luftwaffe infantry
PARA	parachute infantry
IT	Italian
FIN	Finnish
RUM	Rumanian
HUN	Hungarian

The following abbreviations are for the Axis divisions with names instead of numbers:

SLO	Slovakian
G.D	Grossdeutschland
LAH	Liebstandarte Adolf Hitler (1 SS MOT div)
D.R	Das Reich (2 SS MOT div)
TOT	Totenkopf (3 SS MOT div)
POL	Polizei (4 SS INF div)
WIK	Wiking (5 SS MOT div)
NOR	Nord (6 SS MTN div)
P.E	Prinz Eugen (7 SS MTN div)
F.G	Florian Geyr (8 SS CAV div)
HOH	Hohenstauffen (9 SS MOT div)
FRU	Frundsberg (10 SS MOT div)
N.L	Nordland (11 SS MOT div)
H.J	Hitlerjugend (12 SS MOT div)
HAN	Handschar (13 SS MTN div)
GAL	Galiz #1 (14 SS INF div)
LET	Lett #1 (15 SS INF div)
R.F	Reichsfuhrer (16 SS MOT div)
G.B	Gotz von Berlichingen (17 SS MOT div)
H.W	Horst Wessel (18 SS MOT div)

3.0 SEQUENCE OF PLAY

WAR IN RUSSIA is designed to be a two-sided game: Axis vs. Soviet. The Axis forces must be commanded by a human player. The Soviet forces may be commanded by either a human or the computer.

3.1 Scenario Selection Phase:

During the scenario selection phase, the player(s) select a scenario and determine the conditions under which the game will be played. The set-up may be changed by entering the following numbers:

(1) New Game or Saved Game
(2) 1 Disk Drive or 2 Disk Drives
(3) Solitaire or Two-player
(4) Solitaire Level of Difficulty (1-4)

The scenario may be altered by entering the following numbers:

(5) Barbarosa (Jun 22 1941)
(6) Case Blue (Jun 29 1942)
(7) Zitadelle (July 4 1943)

The Atari version does not allow the use of 2 disk drives. Instead the user is allowed to choose between normal delay loops or fast (short) delay loops during the display of combat results.

3.2 Scenario Set-Up:

At the start of each game the computer will assign all combat units to their historical starting locations.

3.3 Sequence:

A. Axis Group Adjustment/Build Phase
B. Soviet Group Adjustment/Build Phase
C. Soviet Supply Phase
D. Soviet Movement/Tactical Plot Phase
E. Axis Supply Phase
F. Axis Movement/Tactical Plot Phase
G. Tactical Execution/Combat Phase

4.0 GROUP ADJUSTMENT-BUILD PHASE

During the Group Adjustment-Build Phase of each turn the players may adjust the composition of their combat and air groups; build new units, factories and rail hexes; and view the current situation using the map displays.

4.1 Combat Groups:

There are two types of combat groups: (1) mechanized, (2) infantry. Axis mechanized groups will be assigned identification numbers 1-11. Axis infantry groups will be numbered 12-51. Soviet mechanized groups will be numbered 64-75. Soviet infantry groups will be numbered 76-115.

Combat groups may contain from 1-6 units (divisions or corps). Mechanized groups may only contain the following types of units: PZ, PZG, MOT, TANK, and MECH (the 1C IT MOT unit may not be placed in a mechanized group). Infantry groups may contain any type of unit.

During the Group Adjustment Phase the unit composition of friendly combat groups may be altered using the following menu routines: (1) DIVIDE GROUP, (2) TRANSFER UNIT, (N) NAVAL MOVEMENT.

4.2 Air Groups:

Each air group may contain from 0-255 aircraft points. Aircraft points represent approximately 10 combat aircraft of various types. Axis air groups will be numbered 52-57. Soviet air groups will be numbered 116-121. Aircraft points may be transferred between friendly airfields using the menu routines (3) TRANSFER AIRCRAFT.

4.3 Dividing Combat Groups:

A combat group may be divided using the menu routine (1) DIVIDE GROUP. You may not divide a group that is currently stacked with another group.

Enter the number of the group you wish to divide. When the computer prompts, select the type of new group to be formed (If there are no unused group numbers of that type then the computer will abort your divide group attempt). The component units of the dividing group will be listed, numbered 0-6. Enter the number of a unit you wish to transfer and press <RETURN>. Continue the process until you have transferred all of the desired units. Press <RETURN> to go back to the main menu. If the dividing group loses all of its component units then it will be removed from the map.

If the dividing group contains artillery points then you will be allowed to transfer some or all of these points to the new group.

4.4 Transferring Units:

Units may be transferred between two combat groups that occupy the same hex using the menu routine (2) TRANSFER UNIT.

The computer will prompt you to enter the numbers of the gaining and losing groups. The computer will list the component units of the losing (top) and gaining (bottom) groups, numbered 0-6. Enter the number of the unit you wish to transfer and press <RETURN>. Continue the process for each unit you wish to transfer. Press <RETURN> to go back to the main menu. The gaining group may never contain more than six units. If the losing group transfers all of its units then it will be removed from the map.

If the losing group contains artillery points then some or all may be transferred to the gaining group.

4.5 Transferring Aircraft:

Aircraft points may be transferred between friendly air groups using the menu routine (3) TRANSFER AIRCRAFT. The computer will display the number of aircraft points avialable in each air group. The computer will prompt you to enter the numbers of the losing and gaining air groups and then the number of aircraft points you wish to transfer. You may transfer a maximum of 50 aircraft points per turn. An air group may contain a maximum of 255 aircraft points.

Both players will periodically receive aircraft reinforcements which will be added to their air reinforcement pool. To transfer aircraft points from the pool into an air group use the TRANSFER AIRCRAFT routine and type "R" as the losing group (this will count towards the maximum of 50 transferable aircraft points).

4.6 Map Display:

The players may view the map and the status of their forces using the menu routine (4) MAP DISPLAY. The game map is 31 hexes wide and 32 hexes high yet only a 13 × 7 hex section can be shown on the screen. The map can be made to scroll across the screen by moving the white cursor to the appropriate edge of the map. The cursor can be moved by typing the numbers 1-6 (1 = north, 2 = northeast, 3 = southeast, 4 = south, 5 = southwest, 6 = northwest). The units on the map may obstruct your view of the terrain in their hex. To view the map without any units press (T); press <SPACE> and the map will return to normal.

To view the contents or find the identification number of friendly groups on the map, move the cursor on top of the group (or stack) and press (L) to look. The identification number of the group(s) will be displayed along with the component units STRENGTH, EXPERIENCE and FATIGUE. The group's artillery strength and entrenchment level will also be displayed.

4.7 Strategic Map Display (Apple only):

To view the entire map on one screen use menu routine (5) STRATEGIC MAP DISPLAY.

4.8 Building Factories:

The players may build factories on turns in which they have 1 or more points in their completed factory pool. To build factories use menu routine BUILD FACTORY. The computer will list the eligible cities and the number of factories of each type that the city currenty supports. Enter the number of the city where your factory will be built. You may build 4 types of factories: (1) Heavy industry, (2) vehicle, (3) artillery, (4) aircraft. You may continue building factories until the factory pool reaches zero.

The BUILD FACTORY routine may also be used to dismantle factories. Enter the number of the city whose factories should be dismantled. There is a random chance that some or all of the factories will be successfully dismantled. Dismantled factories will be converted into construction points ranging from 1 to 5 (see section 8.5). Only one city per turn may attempt to dismantle factories.

4.9 Building Units:

New units may be built using the menu routine BUILD UNIT. New units must be built in a friendly controlled city with a population greater than zero (this city may not be adjacent to an enemy unit). The computer will list the cities that meet the above criteria. Enter the number of the city in which you will build the new unit(s). You will be prompted to enter the type of group (mechanized or infantry) in which the new unit will be built. In situations where building would create an overstack situation or if all of the group numbers for the selected group type are being used then the computer will abort the build attempt. The total number of units controlled by a player may never exceed 199.

The Soviet player may build MECH, TANK and RIFLE type units. The Axis player may build PZ, INF and elite SS type units. The Axis player starts the game with four elite SS units (LAH, DR, TOT and WIK). Starting in 1943 the Axis player may build THREE additional elite SS units (HOH, FRU and HJ).

In 1941 when the Soviet player selects a RIFLE unit to be built there is a random chance that a CAV unit will be built instead. In 41 and 42 when the Axis player selects an INF unit to be built there is a random chance that a MTN unit will be built instead. In 43, 44 and 45 when the Axis player selects an INF unit to be built there is a random chance that a LW INF, SS INF, SS MTN or SS CAV unit will be built instead. In 43, 44 and 45 when the Axis player selects a PZ unit to be built there is a random chance that an SS PZG unit will be built instead.

The computer will display the maximum combat strength for the type of unit to be built. You will be prompted to enter the strength points to be placed in the new unit (this number must be at least 10 and must be a multiple of 10). Infantry and vehicle points must be spent to build combat points. Listed below is the cost per combat point for each type of unit:

	infantry	vehicle
INF	1	0
RIFLE	1	0
MTN	1	0
CAV	1	0
MOT	1	1
PZG	1	1
PZ	1	1
TANK	1	1
MECH	2	1
SS elite	2	1

The computer will not allow combat points to be built without adequate totals in the infantry and vehicle pools.

Listed below are the starting experience and maximum strengths for each type of unit:

	EXPERIENCE	STRENGTH
INF (41-42)	70	70
INF (43-44)	10	90
SS INF	10	90
MTN	10	60
SS MTN	10	90
CAV	10	60
SS CAV	10	90
JG	10	60
LW INF	10	60
PZ	10	150
SS PZ	90	200
PZG	10	130
SS PZG	10	140
SS PZG elite	90	200
MOT	10	100
SS MOT elite	90	140
IT MOT	10	100
IT INF	10	60
RUM INF	10	60
RUM CAV	10	60
RUM MTN	10	60
HUN INF	10	60
FIN INF	10	120
RIFLE	10	90
GDS RIFLE	10	120
CAV (41-42)	10	60
CAV (43-44)	10	90
GDS CAV	10	120
PARA	10	120
TANK (1941)	10	60
MECH (1941)	20	90
TANK (42-44)	10	120
GDS TANK	10	140
MECH (42-44)	70	150
GDS MECH	70	180

All German units built in 1941 or 42 will have a starting experience of 70.

4.10 Naval Movement:

Players may transfer friendly units by sea using the menu routine (N) NAVAL MOVEMENT. Naval movement may be performed between two friendly ports adjoining the same body of water. Listed below are the ports for each body of water:

BLACK SEA	Odessa
	Sevastapol
	Krasnodar
BALTIC SEA	Konigsberg
	Riga
	Helsinki
WHITE SEA	Murmansk
	Archangel

A player may transfer only one unit per turn in each body of water. The Soviet player may never use naval movement in the Baltic Sea. Naval movement is not allowed in the White Sea during COLD and VERY COLD weather.

Infantry groups must be present on both of the ports involved. These will be the gaining and losing groups requested by the computer in the NAVAL MOVEMENT routine (the procedure is the same as the transfer units routine). TANK, MECH, PZ, PZG, MOT and FIN INF units may never use naval movement.

4.11 Ending the Game:

To end a game ahead of schedule use menu routine (X) END GAME. Both players should agree before ending the game. The computer will display the final score.

5.0 SUPPLY

Combat units must be in supply to remove fatigue, receive replacements and build up artillery. Air groups must be in supply to be eligible for strike or interception missions. All supply actions revolve around the use of friendly depot units.

5.1 Depot Units:

Axis depots are numbered 58-63. Soviet depots are numbered 122-127.

5.2 Depot Movement Phase:

At the start of the depot movement phase all friendly depots will be automatically returned to their designated starting hexes. If the depot's starting hex is currently controlled by the enemy then the depot may not be used during the current turn.

During the Depot Movement Phase depot units must be moved sequentially. A depot must complete its move before the next higher numbered depot can start its move. Depot units may enter friendly rail, friendly city, clear and enemy rail hexes only. Depot units may never enter enemy zones of control (see 6.10). A depot pays no penalty for entering friendly rail and city hexes. For each clear or enemy rail hex a depot enters it will lose some of its ability to remove fatigue from friendly units.

When a depot ends its move it will distribute supplies to every friendly unit within two hexes of the depot's ending location. All friendly units that were eligible to receive supplies will be considered IN-SUPPLY for the remainder of the turn. Friendly combat groups that receive supplies may have fatigue reduced in each of its component units. The amount of fatigue removed from each unit varies with the number of penalty hexes (clear, enemy rail) the depot entered during depot movement:

PENALTY HEXES	FATIGUE REMOVED
0	50%
1	33%
2	25%
3	20%
4	17%
5	14%
6	12%

During depot movement a depot may enter a maximum of 4 penalty hexes. For fatigue removal purposes 2 is added to the number "penalty hexes" for Axis depots during RAIN or VERY COLD (in 1941) weather. For fatigue removal purposes 1 is subtracted from the number of 'penalty hexes' for each 1000 vehicles a player has in his pool.

If you move a depot incorrectly and you wish to start over, press the (A) key to abort.

MOT, PZG, PZ, MECH and TANK type units that have fatigue reduced will consume 2 supply points. Other units that have fatigue reduced will consume 1 supply point. If the supply pool reaches zero then there will be no fatigue reduction for the remainder of the turn. A player's supply pool will not be displayed, but supply points produced during the production phase maybe accumulated up to a maximum of 255 supply points. An "*" will be displayed during supply distribution for each supply point consumed.

Combat groups may only receive supplies (remove fatigue) once per turn.

The players have the option of using the Auto-Move function at the start of each depot's move. Using auto-move a depot will automatically retrace its previous move until it enters a hex that is not a friendly rail or friendly city.

After each depot has been used to distribute supplies it will be removed from the map until the start of next turn's depot movement phase.

5.3 Building Rail Hexes:

During the depot movement phase depots may be used to build friendly rail hexes. Move the depot to the desired hex and press (B) to build. If the necessary conditions are met then a rail hex will be built in the designated hex at the start of the next turn.

Rail hexes may only be built in clear or enemy rail hexes. Rail hexes will not be built on the following turn if the weather is RAIN for that turn.

The Axis player must alternate his rail construction between the area north of hexrow 21 (inclusive) and the area south of hexrow 21 (exclusive). On the first turn the Axis player may only designate a hex in the southern area for rail construction; on the second turn he may only designate a hex in the northern area, etc.

Depots that are used to designate rail construction will be returned to their starting hex and may be moved again to distribute supplies.

A maximum of one rail hex may be built by each player at the start of each turn. If you designate more than one hex for rail construction then only the last hex designated will be used.

During the depot movement phase the message (B)UILD RAIL will be displayed in inverse to remind that a rail construction hex has not been designated for the current turn.

5.4 Supply Scan:

The (S)UPPLY SCAN function may be used during depot movement to show which friendly groups have NOT received supplies. The supply scan erases all friendly SUPPLIED groups from the display.

6.0 MOVEMENT — TACTICAL PLOT PHASE

During the Movement — Tactical Plot Phase friendly units may receive replacement; combat groups may build up artillery, entrench, plot tactical movement or conduct strategic movement; air groups may move or plot airstrikes.

6.1 Group Selection:

To perform any of the actions listed above you must first select the desired group. The computer will display the map; move the cursor on top of the group or stack you wish to select and press (G) to get the group. If you (G)et a stack and the computer selects the wrong group then press (Q) and the computer will select the other group in the stack. When you have concluded your actions with a group you may press (Q) and move the cursor to a different group or press (N) and the computer will automatically select the next higher numbered friendly group.

After you have selected a unit the computer will list the following menu options: MOVE 1-6 for strategic movement, (E)XAMINE to check the contents of the group, (R)EPLACE to add replacements or artillery, TAC(P)LOT to plot tactical movement, (X)RAIL MOVE to use rail movement, (N)EXT UNIT to select the next sequential group, (A)BORT to start over after a botched move, and (T)ERRAIN to erase all groups from the map and view terrain.

Also shown on the display are the CURRENT PLOT (which applies only if you have plotted tactical movement) and group STATUS. Listed below are the status codes and their descriptions.

- U Unsupplied, group may move or entrench up to level 3
- S Supplied, group may move, entrench, add replacements or artillery
- M Moved, group eligible to continue strategic movement
- N No actions allowed

6.2 Strategic Movement:

Strategic movement may be performed by air and combat groups. Combat groups that use strategic movement may not plot a tactical move, build up artillery or entrench on the same turn. A group may not receive replacements after it has used strategic movement. Air groups that use strategic movement may not fly combat missions in the same turn. Groups that use strategic movement will return all of their artillery to the artillery pool (see 8.11) and lose their entrenchments.

The number of hexes that may be moved by the various group types is as follows:

Mechanized	4
Infantry	2
Air	1

To move a selected group, enter a number 1-6 (1 = north, 2 = northeast, 3 = southeast, 4 = south, 5 = southwest, 6 = northwest). A group may continue moving until it has used its movement allowance, enters a swamp or mountain hex or enters an enemy zone of control (ZOC). The computer will automatically abort a group's move if any of it's component units exceed 94% fatigue.

Air groups may only enter clear, friendly rail, friendly city and enemy rail hexes during strategic movement. Air groups may not enter an enemy ZOC unless a friendly entrenched combat group is in the hex.

Combat groups that are OUT OF SUPPLY may move a maximum of 1 hex during strategic movement. Groups that begin their move on friendly rail or city hexes are considered IN SUPPLY for strategic movement purposes.

6.3 Rail Movement:

Rail movement is a form of strategic movement. To use rail movement a selected group must begin its move on a friendly rail or city hex. During rail movement a group may only enter friendly rail and city hexes. Groups may never enter enemy ZOCs when using rail movement. Within the above listed restrictions there is no limit to the distance a group may travel using rail movement. A maximum of 3 groups per turn may use rail movement (excluding depots moved during the Depot Movement Phase).

6.4 Replacements:

Friendly combat groups that are in supply may receive replacements (in multiples of 10) to enhance/rebuild the strengh of their component units. Groups must receive replacements BEFORE adding artillery or using strategic movement. Groups may receive replacements after they plot tactical movement.

The cost for adding replacement points is the same as the cost for building new combat points (see 4.9). A unit's experience will be reduced when replacements are added (see 8.2).

6.5 Artillery Build-ups:

Friendly combat groups that are in supply may build up their artillery strength. Use the (R)EPLACEMENT routine for the selected group and press (6) to add artillery. Thirty artillery points will be added to the selected group (if the artillery pool contains less than 30 points then the remainder of the pool will be added). A group may add artillery only once per turn. After adding artillery a group may not move or add replacements for the remainder of the turn.

6.6 Tactical Movement Plot:

Tactical movement is plotted during the Movement-Tactical Plot Phase and executed during the Tactical Execution-Combat Phase. Mechanized groups may move 2 hexes and infantry groups 1 hex per turn using tactical movement. A tactical plot is a simple instruction 1-3 characters in length, that defines a group's movement during the execution phase. Numerical characters 1-6 are used to plot movement in a particular compass direction (see 6.2). The letter "S" at the end of a plot instructs the group to attack in the plotted direction but NOT to move. If an "S" is included in the middle of a movement plot then the remainder of the plot will be ignored (a "5S6" plot would be interpreted as a "5S"). The letter "B" at the end of a movement plot instructs the group NOT to move or attack but only to fire an artillery bombardment. A "2B" plot would instruct the group to bombard the adjacent hex northeast of the the firing group. A "0" plot instructs the group to do nothing (pause) for one tactical movement segment.

Mechanized groups may move twice (one hex per segment, see 7.0) during tactical execution; infantry groups may move once. Non-combat groups may not move during tactical execution.

Examples of legal mechanized group plots are as follows: (A)1 (B)2S (C)34 (D)56S (E)2B.

Examples of legal infantry group plots are as follows: (G)4 (H)5S (I)1B.

Combat will occur during tactical execution whenever a group attempts to move into a hex occupied by an enemy group. For a group to attack an enemy group in an adjacent hex to the northeast, movement plot (B) shown above could be used. If the defending unit is forced to retreat during combat, the "S" at the end of the plot would instruct the attacking group NOT to advance into the vacated hex. In example (D) shown above, the "S" at the end of the plot applies only to combat that occurs during the second tactical move. Enemy ZOCs have no effect on tactical movement.

TACTICAL PLOT SUMMARY

1-6	(d)irection
S	(S)top
B	(B)ombardment
0	(p)ause

LEGAL INFANTRY GROUP PLOTS:
d, dS, dB

LEGAL MECHANIZED GROUP PLOTS:
d, dS, dB, dd, ddS, ddB, pd, pdS

6.7 Stacking:

A maximum of two friendly groups may be stacked in a single hex. In strategic or tactical movement a group may never enter a hex occupied by two friendly groups (of any type). During depot or rail movement groups may pass through a hex that contains two other friendly units but may not stop in an overstacked hex. Groups may not retreat into an overstacked hex after combat.

6.8 Entrenchment:

After all moves have been completed the computer will attempt to entrench all of your eligible units. Groups that used strategic or rail movement or plotted tactical movement are not eligible to entrench.

There are six levels of entrenchment (0-5). Each eligible unit has a 50% chance of achieving its next higher level of entrenchment.

Groups in level 3 or 4 entrenchments may not achieve a higher level if OUT OF SUPPLY. Groups with entrenchment levels 0-2 may achieve a higher level regardless of their supply state.

6.9 Plotting Airstrikes:

Airstrikes are plotted during the Movement-Tactical Plot Phase and resolved during the Tactical Execution-Combat Phase. Air groups that are IN-SUPPLY and did not move during the turn are eligible to plot airstrikes.

For each eligible friendly air group the computer will display the map with the cursor on the group's location. By pressing the direction keys 1-6 you may "fly" the cursor to a target hex and then press (B) to bomb an enemy city (to destroy factories) or (G) to ground attack enemy group(s) in the hex. For airstrike purposes, Axis air groups have a maximum range of 4 hexes; Soviet air groups have a maximum range of 3 hexes.

When "flying" the cursor to the target hex use the most direct route possible. If you make a mistake in moving the cursor then use the (A)BORT key and start over.

If you do not want an air group to plot an airstrike then press (Q) and the program will move to the next eligible air group.

6.10 Zones of Control:

All groups on the map have a zone of control (ZOC). Each group projects a ZOC into the 6 adjacent hexes.

ZOCs have no effect on tactical movement. During strategic movement combat groups must stop when entering an enemy ZOC. Combat groups may retreat into an enemy ZOC only if the retreat hex is occupied by a friendly entrenched group. Depots may never enter an enemy ZOC. Groups may never enter an enemy ZOC using rail movement. Groups may move directly from one enemy controlled hex to another enemy controlled hex only if the destination hex is occupied by a friendly ENTRENCHED group. Airfields may only enter an enemy ZOC if the hex contains a friendly entrenched group.

7.0 TACTICAL EXECUTION — COMBAT PHASE

During the Tactical Execution — Combat Phase the moves/attacks previously plotted will be executed using the following sequence:

(1) Airstrike Resolution
(2) First Player Determination
(3) First Player Movement
(4) First Player Attack Resolution
(5) Second Player Movement
(6) Second Player Attack Resolution
(7) First Player Mechanized Movement
(8) First Player Attack Resolution
(9) Second Player Mechanized Movement
(10) Second Player Attack Resolution

7.1 Airstrike Resolution:

Airstrike will be resolved using the following sequence:

(1) Air to Air Combat Resolution
(2) Bombing/Ground Attack Resolution

In air to air combat each supplied enemy air group within 2 hexes of the target hex will intercept the bombing group (air units that moved may not intercept during the same turn). Bombing groups with a fighter escort will suffer fewer losses in air to air combat and inflict highter losses on the intercepting (defending) fighters. Airstrikes with a range of 2 or less from their home base will automatically have a fighter escort. Intercepting air groups that had also plotted an ESCORTED airstrike on the same turn will intercept at only ½ of their aircraft strength. Axis air groups will be TWICE as effective as Soviet air groups in air to air combat.

Following air to air combat the bombing air group will suffer 1 to 3% "flak" losses prior to attacking the target. If the target is an enemy city then the bombers will attempt to destroy factories. It will require 50 aircraft points to have a 50% chance of destroying 1 enemy factory. The MAXIMUM number of factories that may be destroyed is equal to BOMBING AIRCRAFT POINTS / 50, fractions rounded up. If the target is an enemy air group then the target air group will suffer approximately 1 aircraft point loss for every 10 bombing aircraft points. If the target is an enemy combat group then approximately 1 fatigue point will be added and 1% strength point losses will be suffered by each of the target group's component units for every 5 attacking aircraft points. Soviet bombers will be one-half as effective as Axis bombers (the examples given above are for German bombers).

In poor weather there is a chance that overcast will obscure the target and prevent the attack. The chance of overcast for each type of weather is: CLEAR-0%, COLD-20%, VERY COLD-40%, RAIN-60%.

Poor weather will also reduce the effectiveness of air attacks as follows: COLD-50%, VERY COLD-67%, RAIN-75%.

7.2 First Player Determination:

Prior to executing the tactical movement plots the computer will determine which player will be the first player for the current turn. In the early years of the war (41-42) during clear weather the Axis player will be the First Player 90-95% of the time. During the later years of the war (43-44) or during periods of COLD, VERY COLD or RAIN the Soviet's chance of becoming the First Player will increase.

7.3 Tactical Movement:

All combat groups that plotted tactical movement will execute their moves in the sequence shown in 7.0. If the Axis is the first player then Axis infantry groups would move during segment (3). An Axis mechanized group that plotted tactical move "23" would move in direction 2 during segment (3) and move in direction 3 during segment (7).

During tactical movement the computer will move combat groups sequentially, in group number order.

Combat groups that are unable to execute their moves due to overstack or illegal terrain will have the remainder of their plot canceled.

7.4 Combat:

Combat groups that attempt to move into an enemy occupied hex during tactical movement will not move but will attack the enemy group(s) in that hex during the Attack Resolution Segment. If more than one friendly group attempts to enter the same enemy occupied hex during the same movement segment then those groups will combine their combat strengths in an attack. Attacks are resolved sequentially, in ATTACKER group number order.

7.5 Bombardments:

Prior to assaulting an enemy occupied hex, the attacking groups will combine their artillery strengths and bombard the enemy group(s) in the target hex. In addition to the artillery points in the attacking groups, each unit within the attacking groups will add its INTRINSIC ARTILLERY strength to the bombardment. A unit's intrinsic artillery is equal to 1/10 of its ADJUSTED combat strength.

The effects of artillery bombardments are identical to the effects of ground support airstrikes. Each artillery point is equivalent to ⅓ of a German aircraft point.

7.6 Combat Odds

The result of each attack is dependent on the combat odds calculated by the computer. Combat odds are determined by comparing the Adjusted Combat Strength (ACS) of the attacker to the ACS of the defender. The basic ACS of a combat unit is calculated as follows:

STRENGTH × EXPERIENCE × (100 – FATIGUE) / 10000.

The ACS may be further modified by the effects of terrain (see 8.3), weather (see 8.4) and entrenchments (see 7.9).

Mechanized groups have their combat strengths multiplied by 1.5 when attacking units defending in clear (or rail) terrain. Soviet mechanized groups will not receive this bonus until October 1942.

The presence of enemy mechanized groups in the defender's hex will reduce the multiple for the attacker's mechanized group(s). The percentage of reduction is equal to the defender mechanized group strength divided by the total defense strength.

Mechanized groups will not have their strengths enhanced when attacking during RAIN weather. Axis Mechanized groups will not have their combat strengths enhanced when attacking in VERY COLD weather before 1943.

7.7 Defender Retreats

Listed below are the defender retreat chances at the various combat odds:

	RETREAT
1-1 or less	0%
1.5-1	25%
2-1	50%
2.5-1	75%
3-1 or more	100%

Defender groups may not retreat into a hex containing 2 friendly groups. Defender groups may not retreat into an enemy ZOC unless an entrenched friendly group occupies the hex. Defender groups will surrender if a legal retreat hex is not available. The direction of retreat will be determined by the computer.

Air groups forced to retreat after combat will be destroyed instead. Destroyed air groups will return 50% of their aircraft to the reinforcement pool. Destroyed air groups will be returned to play on a friendly depot entry hex one or two turns following their destruction (with zero aircraft).

Groups defending in a fortified city will NEVER retreat. Defending groups that have surviving entrenchments AFTER the attack will NEVER retreat. The percentage of defender entrenchments destroyed is as follows:

ODDS	DESTROYED
2-1 or less	20%
4-1	40%
6-1	60%
8-1	80%
more than 8-1	ALL

Fractional entrenchments are rounded DOWN.

7.8 Attacker Advance:

In combat situations where the defender is forced to retreat the attacking group(s) may advance into the vacated hex. Each attacking mechanized group has a 90% chance of advancing into a vacated hex. Each infantry group has only a 30% chance of advancing. Attacker groups that plotted an "S" at the end of their tactical move will never advance after combat. Attacker groups that fail to advance after combat will cancel the remainder of their tactical plot.

7.9 Entrenchment Effects:

Entrenchments reduce the effects of enemy airstrikes and bombardments. Each entrenchment level provides a multiple to a defender's ACS (i.e. a defender with entrenchment 5 will have his ACS doubled). The effects of each level of entrenchment are as follows:

LEVEL	BOMBARDMENT	DEFENSE MULTIPLE
0	100%	1.0
1	90%	1.2
2	80%	1.4
3	70%	1.6
4	60%	1.8
5	50%	2.0

7.10 Combat Casualties:

Listed below are the AVERAGE casualty percentages that will occur at various combat odds:

ODDS	ATTACKER	DEFENDER
1-5	50%	.4%
1-2	20%	1%
1-1	10%	2%
2-1	5%	4%
5-1	2%	10%
10-1	1%	20%
20-1	.5%	40%

The strength point losses indicated above would be in addition to the losses caused by prior airstrikes or bombardments. The attacker casualties will increase by 10% for each level of entrenchment of the defending group. Thus a 2-1 attack against a defender with level 5 entrenchments would cause 7.5% casualties on the attacking force. Attacker losses will never exceed 50%.

In combat situations where the defender ACS is less than or equal to ONE, the attacker casualties will be .01% (the defensive fire from airfields or shattered combat groups would be negligible).

8.0 GENERAL OPERATIONS

8.1 Fatigue:

Combat units gain fatigue whenever they are moved or are involved in combat. A fraction of a unit's fatigue will be removed each turn that the unit is placed in supply. The amount of fatigue gained through movement (including retreats and advances) varies with the type of terrain entered and the type of weather. The normal fatigue points gained for entering each type of terrain are listed below (SM = strategic movement, TM = tactical movement):

TERRAIN	SM-FATIGUE	TM-FATIGUE
clear	5	10
city	5	10
forest	5	10
rail	5	10
swamp	25	50
mountain	25	50
sea	impassable	impassable

Mechanized groups using tactical movement to enter clear, city or rail terrain during clear or cold weather will suffer only half of the normal fatigue.

Groups using strategic movement across a river while leaving an enemy ZOC will gain an additional 20 fatigue points. Groups using tactical movement across a river will

gain 10 additional fatigue points (ZOCs have no effect). Units never gain fatigue when using Rail Movement. The normal fatigue costs may be multiplied during adverse weather conditions as follows:

CLEAR	×1
COLD	×2
VERY COLD	×3
RAIN	×4
VERY COLD (Axis 1941)	×5

Whenever combat occurs, all of the units involved will suffer 8-12 fatigue points. During cold, very cold or rain weather the attacker fatigue penalty will be DOUBLED. Units forced to retreat will suffer 10-80 additional fatigue points, varying with the weather and the experience of the retreating units.

Fatigue will never exceed 95%. Units with 95% fatigue will suffer 25% strength loss each time additional fatigue is added. A combat group that contains one or more units with 95% fatigue may NOT move. At the end of each turn units will have their fatigue reduced by 1%. Units whose fatigue exceeds 94% due to tactical movement or retreating will not have their fatigue reduced on the SAME turn.

8.2 Experience:

A unit's experience reflects its effectiveness as a combat force. A unit's experience will increase each time it participates in combat. A unit's experience will decrease each time that unit receives replacements. Soviet MECH units, Axis elite SS units and all German units during 1941-42 will suffer less experience reduction than other units when adding replacements.

At the end of each turn all units with an experience less than 50 will have their experience increased by 5 points (when playing levels 3 or 4, the Soviet RIFLE and CAV units have a 75% chance of gaining experience, the Soviet TANK and MECH units have a 56% chance of gaining experience).

8.3 Terrain Effects on Combat:

In calculating combat odds the attacker combat strength may be reduced by the type of terrain in the defender's hex. Listed below are the effects of each type of terrain on the attacker strength:

DEFENDER TERRAIN	ATTACKER
clear	×1
rail	×1
city	×1
fortified city	×½
forest	×1
swamp	×½
mountain	×⅓
across river hexside	×½

In addition to the above listed effects an attacker group's strength is halved when attacking out of a swamp or a fortified city. Terrain effects on combat are cumulative; a group attacking out of a swamp, across a river, and into a mountain hex would have its strength divided by 12 (½ × ½ × ⅓).

8.4 Weather:

The weather is adjusted at the end of each turn. Listed below are the weather probabilities for each month of the year:

JAN	COLD 75%	VERY COLD 20%	RAIN 5%
FEB	COLD 75%	VERY COLD 20%	RAIN 5%
MAR	COLD 47%	VERY COLD 10%	RAIN 43%
APR	COLD 20%	RAIN 80%	
MAY	CLEAR 30%	RAIN 70%	
JUN	CLEAR 72%	RAIN 28%	
JUL	CLEAR 100%		
AUG	CLEAR 100%		
SEP	CLEAR 100%		
OCT	COLD 20%	RAIN 80%	
NOV	COLD 75%	VERY COLD 20%	RAIN 5%
DEC	COLD 75%	VERY COLD 20%	RAIN 5%

From 1 December 1941 to 28 February 1942 the chance for VERY COLD weather will be 80%.

Certain types of weather will affect the player's ability to attack or supply their forces. During periods of RAIN all units will have their attack strength halved and Axis supply will be reduced (see 5.2). RAIN reduces all strategic and tactical movement rates to ONE HEX per turn. In 1941 VERY COLD weather will cause Axis supply to be reduced (see 5.2). During 1941 and 42, VERY COLD weather will cause Soviet attacks to be DOUBLED and Axis attacks will be QUARTERED.

During COLD or VERY COLD weather all rivers and swamps will be frozen. Frozen rivers will have no effect on movement or combat. Frozen swamps will be treated as forest hexes.

8.5 Production:

At the *end* of each turn each player will receive infantry, vehicle, artillery, aircraft, supply and new factory points based upon the number of the various types of factories controlled by the players. The list below shows the number of factories required to build each type of item:

5 vehicle factories	=	10 vehicle points (2550 maximum in pool)
10 artillery factories	=	10 artillery points (2550 maximum in pool)
20 aircraft factories	=	1 aircraft point (255 maximum in reinforcement pool)
1 supply center	=	1 supply point (255 maximum in pool)
10 population points	=	10 infantry points (2550 maximum in pool)
10 heavy industry	=	1 construction point (255 maximum in pool)
5 construction points	=	1 new factory (255 maximum in city for each type of factory)

Building factories is a two-step process. First heavy industry will build construction points. Construction points will be accumulated by the computer but will not be displayed to the players. Next construction points will be converted to new factories in the factory pool (see 4.8). The maximum number of new factories that will be built in one turn is equal to CONSTRUCTION POINTS / 20, fractions rounded down. Dismantled factories will be converted back into construction points (1 dismantled factory converts to 5 construction points).

In 1943 there is a 30% chance that the Axis player will receive no production. In 1944 there is a 50% chance that the Axis player will receive no production.

Soviet infantry reinforcements will vary according to the month and year. Listed below are the modifiers for the Soviet infantry reinforcement points:

JUN 1941-JUL 1941	×3.33
AUG 1941-DEC 1942	×0.83
1943-1944	×0.67

8.6 Lend Lease:

Starting in October 1941 the Soviet player will receive "lend lease" shipments. Lend lease shipments may be received in NORTH, SOUTH or EAST Russia. Lend lease shipments will consist of vehicle and aircraft points. Lend lease shipments will start out small but will increase each year. Lend lease shipments that arrive from the NORTH will be twice as large as those received from the other areas.

The computer will randomly select the area of arrival for each lend lease shipment. Listed below are the chances of arrival for each area:

NORTH 50% SOUTH 25% EAST 25%

Shipments scheduled to arrive in the NORTH will be canceled if both Murmansk and Archangel are Axis controlled. Shipments scheduled to arrive in the NORTH during the months OCTOBER thru APRIL will be canceled if Murmansk is Axis controlled. Shipments scheduled to arrive in the SOUTH will be canceled if Baku is Axis controlled.

Shipments that arrive from the NORTH will be subject to reduction by Axis bombing. Supplied Axis air groups within 2 hexes of the NORTH edge of the map will attack lend lease convoys that arrive in that area. Each aircraft point in the bombing air group has a 10% chance of "hitting" the convoy. Each hit will destroy 1 lend lease aircraft point or 10 lend lease vehicle points. There is a 50% chance that the Axis aircraft will fail to attack the convoy due to poor weather.

Shipments that arrive between OCTOBER and APRIL (winter) may not be used by the Soviet player unless Murmansk is connected to Archangel by an unbroken (must be free of Axis units or zones of control) rail line. This rail line must pass through the hex southwest of Archangel. If this rail line is broken then the winter shipments will accumulate at Murmansk until the rail is rebuilt or until the end of winter (May). If Archangel is taken by the Axis player, all lend lease shipments will accumulate in Murmansk until Archangel is recaptured by the Soviet player.

8.7 Partisans:

Starting in 1942 Axis rail lines will be subject to partisan attacks. With each passing year the frequency of partisan attacks will increase. Partisan attacks will only destroy Axis rail hexes built in Russia. Partisan attacks will never occur in an Axis unit's ZOC. The Axis player may reduce the frequency of partisan attacks by 20% for every 150 points maintained in the infantry pool (acting as security forces).

8.8 Capturing Cities:

Friendly groups may never use strategic movement to enter an enemy controlled

city. Friendly groups that tactical move or advance after combat into an enemy controlled city will capture the city. Captured cities will have their population reduced to zero and all factories except the supply centers will be destroyed. Each time a city is captured/recaptured its supply centers will be halved.

8.9 Automatic Ending:

The game will end automatically if the Soviet player controls Riga, Brest and either Konigsberg or Bucharest. The game will end automatically if the Axis player controls Moscow, Gorki and Kuybyshev, and the Axis player will be awarded a decisive victory.

8.10 Artillery:

Artillery may be added to combat groups at a rate of 30 points per turn. Groups with more than 210 artillery points may not add artillery. All artillery points are automatically returned to the artillery pool whenever a group moves or advances after combat. A group permanently consumes 25% of its artillery points each time it fires a bombardment. Artillery points may be destroyed when a group is bombarded or ground attacked by the enemy. If a group is forced to retreat after combat then all of its artillery points are destroyed.

8.11 Soviet Reserves:

In June and July of 1941 the Soviets will receive 4 times their normal infantry reinforcement points. This represents the activation of the Soviet reserves in the early weeks of the war.

8.12 Soviet Guards:

At the end of any turn in which a Soviet unit has both a strength greater than 40 and experience greater than 80 then that unit will be renumbered and designated as a "guards" unit. Guards units are allowed a higher maximum strength than normal units of the same type.

8.13 Axis Unit Designations:

In January 1943 all Axis MOT units will be changed to PZG units and have their maximum strength increased from 100 to 130. SS MOT units will be changed to SS PZG and the elite SS units will have their maximum strength increased to 200.

In October 1943 the elite SS PZG units will be changed to SS PZ units.

8.14 Soviet Siberian Reinforcements:

When playing at solitaire levels 1 or 2, the Soviet player will receive Siberian reinforcement units. The Soviet player will receive one combat group (containing 5 full strength corps with experience levels of 70) per turn. The Siberian reinforcements will always arrive in Kuybyshev. The reinforcements will not arrive if (1) Kuybyshev is Axis controlled, (2) Kuybyshev already contains two Soviet groups, (3) the maximum number of combat groups or units are already in play.

When playing solitaire level 2 the Siberian reinforcements will arrive from June through December 1942. When playing solitaire level 1 the Siberian reinforcements will arrive from June 1942 through the end of the war.

9.0 VICTORY CONDITIONS

At the end of the game victory points will be calculated and the level of victory will be determined by comparing the scores of the two players.

9.1 Victory Points:

Each player will score 1 victory point for each friendly population point or supply center (points are not received for the Urals or Germany) and 20 points for each controlled city. The Axis player scores 50 points for each month he survives starting January 1943. Victory points are DOUBLED when playing the short scenarios.

Handicap points are awarded in the various scenarios to provide play balance:

Barbarosa (short)	Axis	+300
Case Blue (short)	Soviet	+150
All long scenarios	Soviet	+150

9.2 Victory Levels:

Subtract the Axis Victory Points from the Soviet Victory Points and compare the results to the following table to determine the victory level:

1000 and up	Soviet Decisive Victory
500 to 999	Soviet Substantive Victory
100 to 499	Soviet Marginal Victory
–99 to 99	Draw
–499 to –100	Axis Marginal Victory
999 to –500	Axis Substantive Victory
–1000 or less	Axis Decisive Victory

10.0 SOLITAIRE PLAY

When playing solitaire games the computer will command the Soviet forces. There are 4 levels of solitaire difficulty. The level of difficulty is determined when starting a new game and may be altered when restarting a saved game. As the level number is decreased the Soviet forces will receive more reinforcements and will be allowed to gain experience and entrench FASTER. Also, as the level number is decreased the Soviet forces will attack more effectively during VERY COLD weather before 1943. When playing solitaire levels 1 and 2, the Soviet player will receive the Siberian reinforcements (see 8.14). When playing at solitaire levels 1 or 2, the German units may move a maximum of TWO turns while "out of supply" and then may move no further until placed "in supply" (the computer will not inform you of this, it will just keep your unit from moving). These levels may be used to handicap a two player game if desired. Level 3 is considered the "historical" level.

It is possible to start a game in solitaire mode, save it, and then restart it as a two-player game. To do this set the main menu to two-player mode before reloading the saved game data.

It is possible to save a two player game and restart it as a solitaire game. This should only be done experimentally as the computer may be confused by many human devised deployments.

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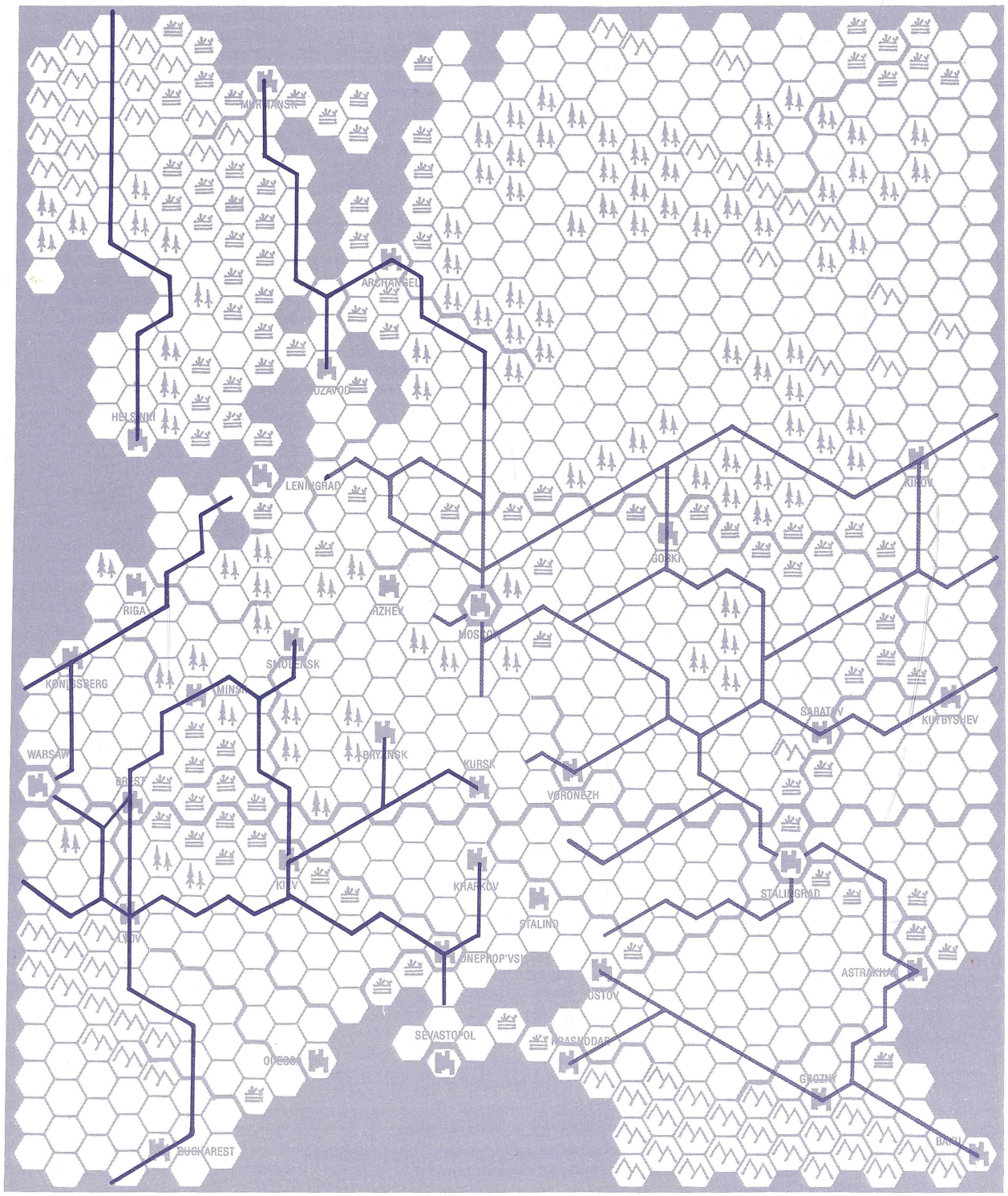
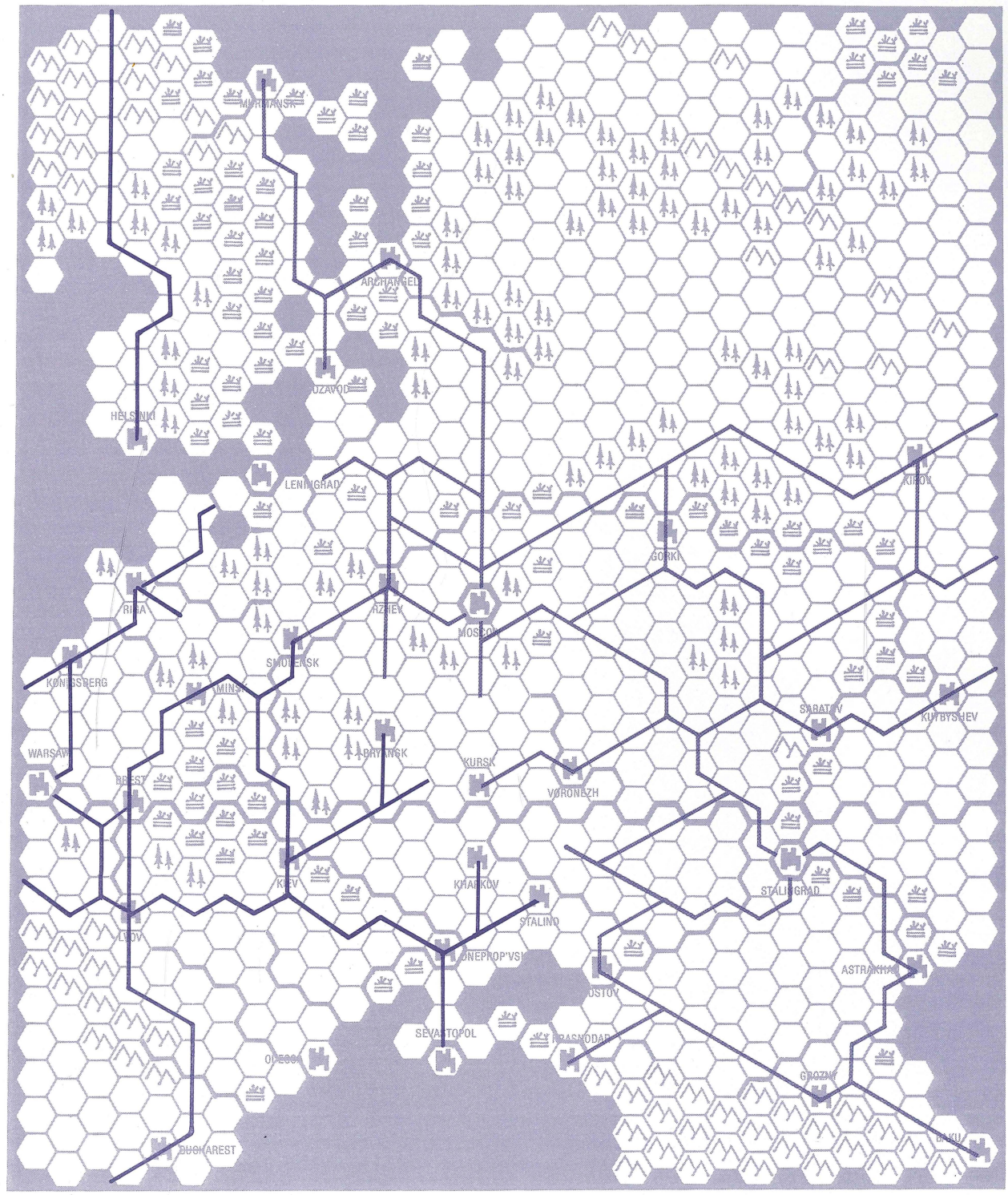
APPLE® version: Produced using copyrighted software products of Einstein Corporation.

CASE BLUE SCENARIO



= FOREST
= MOUNTAIN
= SWAMP
= SEA
= CLEAR
= RIVERS
= CITY
= FORTIFIED CITY
= SOVIET UNION RAILROAD
= AXIS RAILROAD
= AXIS RAIL CONSTRUCTION BOUNDARY

ZITADELLE SCENARIO



= FOREST
= MOUNTAIN
= SWAMP
= SEA
= CLEAR
= RIVERS
= CITY
= FORTIFIED CITY
= SOVIET UNION RAILROAD
= AXIS RAILROAD
= AXIS RAIL CONSTRUCTION BOUNDARY

MOVEMENT FATIGUE COSTS

TERRAIN	SM-FATIGUE*	TM-FATIGUE*
clear	5	10
city	5	10
forest	5	10
rail	5	10
swamp	25	50
mountain	25	50
sea	impassable	impassable

* *SM = strategic movement*
* *TM = tactical movement*

WEATHER MODIFIER FOR MOVEMENT FATIGUE COSTS

CLEAR	×1
COLD	×2
VERY COLD	×3
RAIN	×4
VERY COLD (Axis 1941)	×5

COMBAT TERRAIN EFFECTS

DEFENDER TERRAIN	ATTACKER
clear	×1
rail	×1
city	×1
fortified city	×½
forest	×1
swamp	×½
mountain	×⅓
across river hexside	×½

WEATHER PROBABILITIES

JAN	COLD 75%	VERY COLD 20%	RAIN 5%
FEB	COLD 75%	VERY COLD 20%	RAIN 5%
MAR	COLD 47%	VERY COLD 10%	RAIN 43%
APR	COLD 20%	RAIN 80%	
MAY	CLEAR 30%	RAIN 70%	
JUN	CLEAR 72%	RAIN 28%	
JUL	CLEAR 100%		
AUG	CLEAR 100%		
SEP	CLEAR 100%		
OCT	COLD 20%	RAIN 80%	
NOV	COLD 75%	VERY COLD 20%	RAIN 5%
DEC	COLD 75%	VERY COLD 20%	RAIN 5%

PRODUCTION CHART

5 vehicle factories	=	10 vehicle points (2550 maximum in pool)
10 artillery factories	=	10 artillery points (2550 maximum in pool)
20 aircraft factories	=	1 aircraft point (255 maximum in reinforcement pool)
1 supply center	=	1 supply point (255 maximum in pool)
10 population points	=	10 infantry points (2550 maximum in pool)
10 heavy industry	=	1 construction point (255 maximum in pool)
5 construction points	=	1 new factory (255 maximum in city for each type of factory)

If you have any questions or problems regarding the program or game, please send a self- addressed, stamped envelope with your question to: *STRATEGIC SIMULATIONS INC, 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043-1983.*
Or call our Hotline Number: **(415) 964-1200** every weekday, 9 to 5 (P.S.T.).